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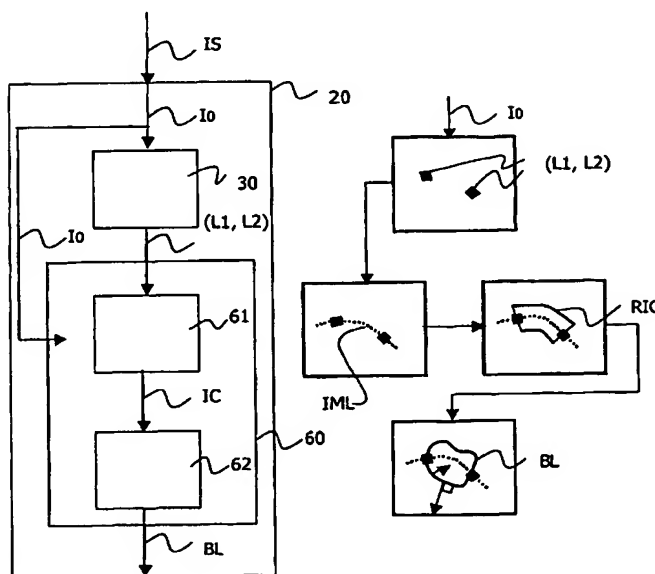
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[Continued on next page]

(54) Title: **MEDICAL VIEWING SYSTEM AND METHOD FOR DETECTING BORDERS OF AN OBJECT OF INTEREST IN NOISY IMAGES**



(57) Abstract: The invention relates to a viewing system and a method for detecting an object of interest in a sequence of images (IS). Said object of interest is detected by first locating localizers related to said object of interest and by locating borders (BL) related to said object of interest using the location (LI, LZ) of said localizers. The viewing system according to the invention is able to produce a sequence of enhanced images in which the object of interest is enhanced, to measure some characteristics and to build a three dimensional representation of said object of interest. The viewing system is also able to register and combine said sequence of enhanced images with a sequence of reference images.

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**Declaration under Rule 4.17:**

- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)

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B. FIELDS SEARCHED

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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, INSPEC, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DIJKSTRA J ET AL: "Automatic border detection in intravascular ultrasound images for quantitative measurements of the vessel, lumen and stent parameters" COMPUTERS IN CARDIOLOGY 2001. VOL.28 (CAT. NO.01CH37287) IEEE PISCATAWAY, NJ, USA, 23 September 2001 (2001-09-23), pages 25-28, XP010573207 ISBN: 0-7803-7266-2 * section 2.1 * page 25, right-hand column, last paragraph figure 1 ----- -/--	1,11-14

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>VEZJAK M ET AL: "System for description and identification of individuals" ELECTROTECHNICAL CONFERENCE, PROCEEDINGS 6TH MEDITERRANEAN LJUBLJANA, SLOVENIA, NY, USA, IEEE, 22 May 1991 (1991-05-22), pages 1251-1254, XP010040089 ISBN: 0-87942-655-1 page 1252, left-hand column, lines 1-11 page 1253, left-hand column, last paragraph</p>	1,11-14
X	<p>KONING G ET AL: "Advanced contour detection for three-dimensional intracoronary ultrasound: a validation - in vitro and in vivo" INTERNATIONAL JOURNAL OF CARDIOVASCULAR IMAGING KLUWER ACADEMIC PUBLISHERS NETHERLANDS, vol. 18, no. 4, August 2002 (2002-08), pages 235-248, XP008035202 ISSN: 0167-9899 page 238, left-hand column, line 25 - right-hand column, line 15</p>	1,11-14
A	<p>KOMPATSIARIS I ET AL: "DEFORMABLE BOUNDARY DETECTION OF STENTS IN ANGIOGRAPHIC IMAGES" IEEE TRANSACTIONS ON MEDICAL IMAGING, IEEE INC. NEW YORK, US, vol. 19, no. 6, June 2000 (2000-06), pages 652-662, XP001148120 ISSN: 0278-0062 cited in the application figure 3 page 653, left-hand column, last paragraph page 655, left-hand column * section 5 *</p>	1-14
A	<p>WO 02/02173 A (CEDARS SINAI MEDICAL CENTER) 10 January 2002 (2002-01-10) page 4, last paragraph page 7, line 25 - line 29 page 8, line 4 - line 11</p>	1-14

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

/1/3/05495

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